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# THE BATH AS A HEALING AGENT

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[References.—"American Text-Book of the Theory and Practice of Medicine." William Pepper. 1894. "Twentieth Century Practice of Medicine." Thomas L. Stedman. 1900.]

The bath at present plays such an important part in the treatment of disease that a few words regarding its different uses will, no doubt, be interesting to nurses, especially to those who graduated in the early days of the training-school's existence, or when it was employed only to a very limited extent as a healing agent.

The history of hydrotherapy is comparatively young. It was first proposed by Dr. James Currie, of Liverpool, England, in 1786, who practised it systematically in all forms of continued fever. As a rule, it was employed in the form of cold affusions, the temperature varying with the season of the year from 45° to 60° F. Some ten years later he published his medical reports on "The Effect of Water, Cold and Warm, as a Remedy in Fever and other Diseases." In this work he described with admirable clearness the class of cases in which he believed the cold-water treatment to be indicated and laid down strict rules for its application. Unfortunately, his followers failed to observe these rules and precautions, and the cold-water treatment gradually fell into disuse. In 1861 it was again brought forcibly to public attention by Ernst Brand, of Stettin, and his persistent advocacy of its merits led to its being called by his name. It was applied in various ways, the most important of which were the tub bath, the cold pack, and the cold sponge. The Brand method of treatment of typhoid fever is now widely employed. It was slow in obtaining recognition in England, and it is only within the past ten years that it has come into general use in this country.

For the administration of the bath a portable tub is necessary. This is filled two-thirds full of water at a temperature of 80° F. and rolled to the bedside. Across the top are three pieces of heavy canvas forty-four inches long, held in place and securely fastened by small metal clamps, an ingenious device invented by Miss M. James, a graduate of this Training-School. This arrangement supports the patient's body just beneath the surface of the water. A rubber ring on the head canvas is used for a pillow. After each bath the tub is removed from the ward and emptied by means of a spigot placed at the end for that purpose. (See Plate II.)

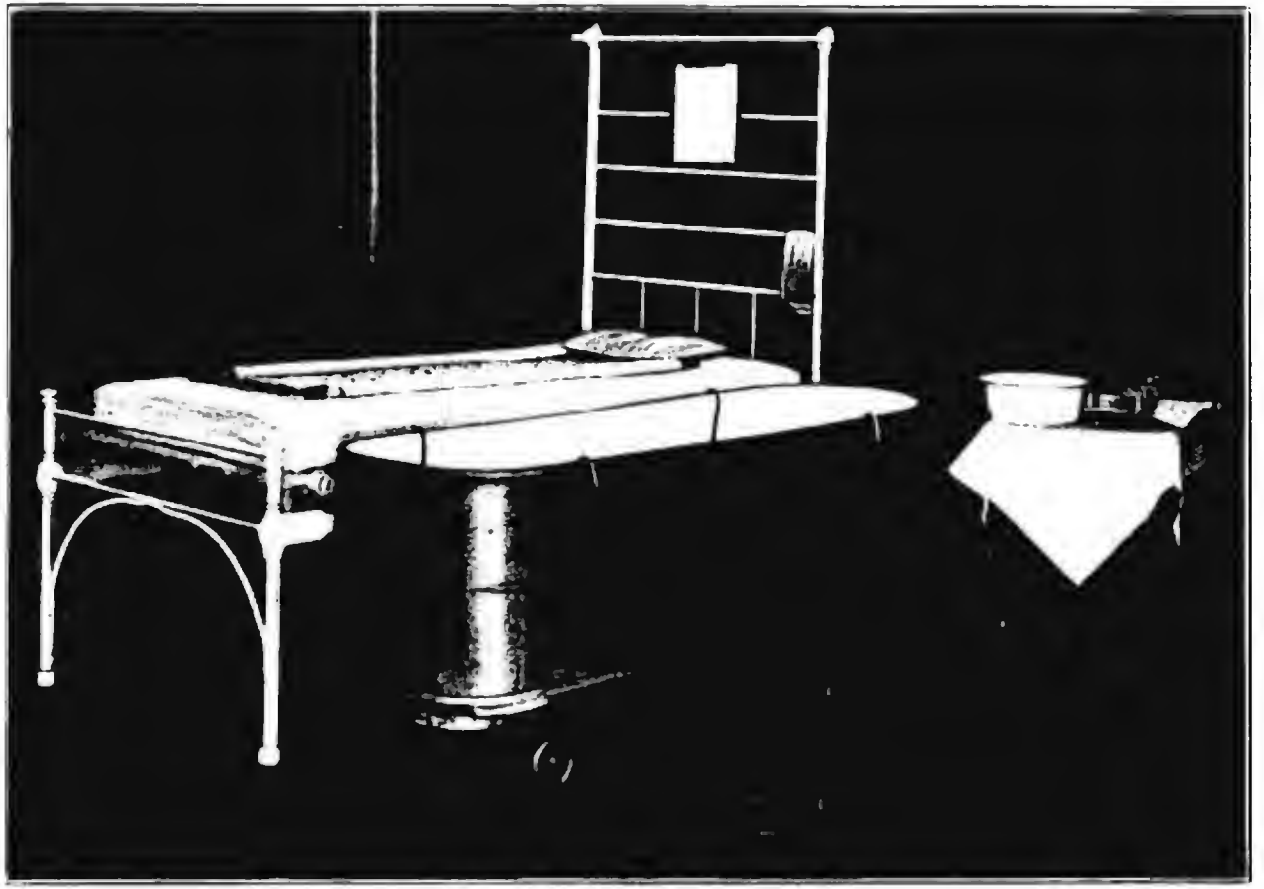
A combination lift and canvas support, lately devised by one of the senior pupil nurses, has proved to be of much value in giving the bath treatment. It is specially adapted for lifting very heavy patients, not only simplifying the work of handling them, but doing away with even the possibility of exertion on the part of the sufferer. The apparatus consists of four stout wooden poles fastened at the corners with strong metal pins. Instead of the solid sheet of canvas, a covering made of narrow strips, firmly stitched together, is substituted. Deep hems on either side accommodate the poles. A rubber pillow in place of the ring supports the head. When prepared for use the patient lies on the canvas in a long, narrow frame, which, in turn, when lifted into the water, rests on adjustable metal braces or hooks at each end of the tub. (See Plate I.)

Not many years ago the bath employed as a remedy in typhoid fever was the only one given in this hospital for medical purposes. The nurse of that day has vivid recollections of the great tub of cold water, with its lumps of ice clinking against its sides as it was rolled into the ward, in which the unfortunate patient was immersed regularly every three hours if his temperature reached a certain height, and the basin of cracked ice which always accompanied it, to be added from time to time during the twenty minutes of torture.

This method gave very satisfactory results, and the wildest delirium usually subsided after its administration. The patients, however, soon learned to look upon it with fear and dread, though there were a few exceptions. One huge fellow of the Russian-Jew type, who could only be kept in bed with the assistance of the straight jacket, was put into his first tub by the combined efforts of seven men. But once there, a remarkable change took place. The look of intense fear gave way to one of amazed and peaceful quiet, and he never ceased to plead for "more tubs," even in his convalescent stage.

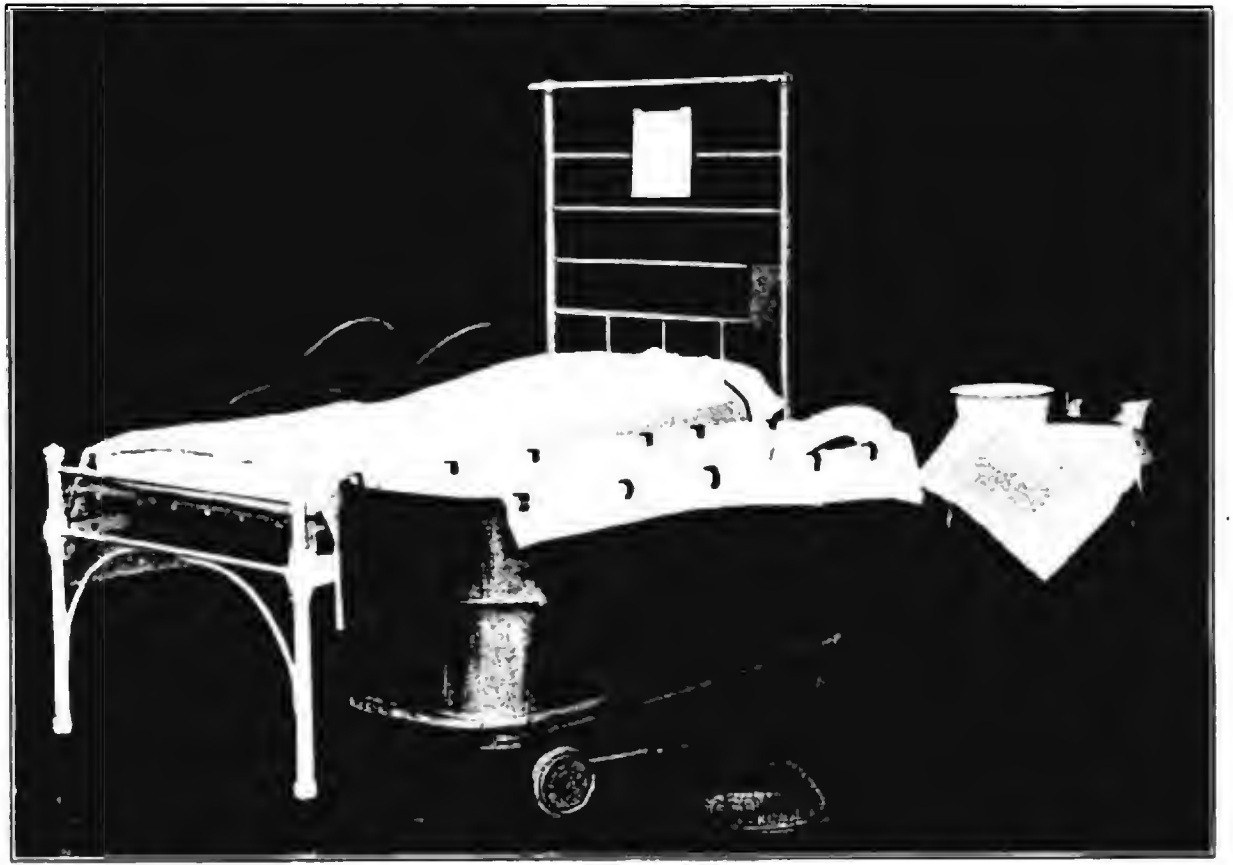
The bath treatment all this time was undergoing the most careful observation and study. Experiments were made, and it was soon discovered that the reduction of the temperature, though greatly to be

PLATE I.



A COMBINATION LIFT AND CANVAS SUPPORT

PLATE II.



MISS JAMES'S INVENTION

desired, was perhaps the least beneficial result obtained. Consequently the temperature of the water was gradually raised to a comparatively comfortable degree and the use of ice during the bath discontinued. In place of the absolute quiet formerly maintained the patient was now given friction of the body constantly, and through these changes it has come about that at the present time the cold tub has practically lost its terrors. In many cases there is no reduction of the temperature, and occasionally the thermometer will register one- or two-tenths of a degree higher, but the effect upon the excretory organs, the stimulating of the heart and pulse, and the deepening and slowing of the respiration are just as marked, and, more important still, an improved condition of the nervous system follows, with lessening or disappearance of the delirium and stupor and relief of the insomnia. Sooner or later, too, the most obstinate fever yields, and the patient slowly but surely returns to health and strength.

A new method of treatment of spinal meningitis has recently been introduced into the medical wards, the value of which has been definitely proven. This consists in warm bathing. It is practically a Brand bath with the temperature of the water raised to 100° F., and is given without friction. The immediate effect of this bath upon the pain and rigidity is noticeable. The muscular contractions become less marked, the pulse slower and more regular, and the temperature falls.

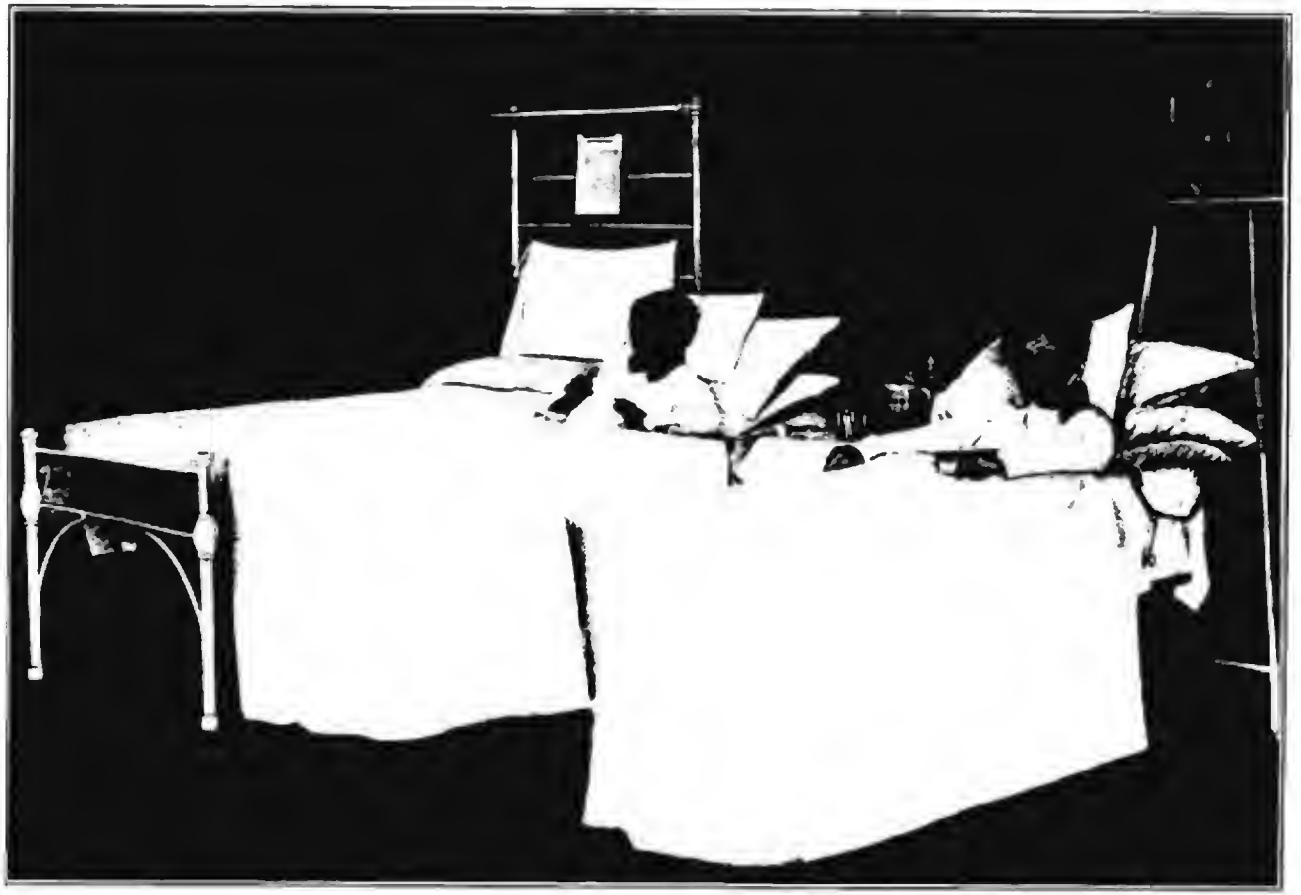
What is known as the continuous tub was first used here in general surgical work, the object being to supply continuous irrigation for infected or suppurating wounds. If an injury involves only the hand or foot, the application of irrigation is a simple matter, requiring only a deep basin and care regarding the temperature of the water. But in cases of leg amputation, compound fracture, or cœliotomy the treatment can only be applied by immersing the whole body, and here is the nurse's opportunity to display her ingenuity. The canvases must be so arranged that the patient has a comfortable bed on which to lie, at the same time the affected part must be kept free from contact with them in order that the irrigation may have free play against the wounded surface. The temperature of the water must be kept at from 98° to 100° F. continuously. This involves frequent changing and great care on the part of the nurse, not only to prevent burns when the hot water is added, but every precaution must be taken to protect the patient from sudden chill and, perhaps, consequent pneumonia, which may follow a careless arrangement of the covering and an exposure to draughts or the cooler atmosphere of the ward. Plain, clear, but not sterile warm water is used as a rule. Occasionally normal-salt solution, boric-acid solution, or a weak solution of the bichloride of mercury are substituted. This

method has also been employed very successfully in the treatment of burns, especially where the injury covers a large surface of the body.

In gynæcology the use of the continuous tub is becoming as much a recognized form of treatment as the baths in typhoid fever. In certain bladder and rectal cases, or where for any reason there is a constant irritating discharge, the tub is almost indispensable. Whether a vesical fistula has come about as the result of accident or has been artificially created for the purpose of placing the bladder in a state of rest, there is nothing more beneficial or grateful to the patient than to spend eight or ten hours daily in a tub of warm water. Not only are the discharges constantly washed away and the patient kept cleaner than by any other means, but all irritation and excoriation of the skin are done away with, and the odor so frequently present in cases of this kind is completely abolished. In cases where continuous bladder irrigations are in use there is practically no alternative. Unlike the surgical method, the gynæcological patient is not deeply immersed in water, as might be supposed. The canvases are arranged in the following manner: The first, or "head piece," is drawn taut and clamped across the upper end of the tub; on this rest the pillows, two or more, as many as may be required to support the patient at a comfortable angle; the lower one has a rubber cover to allow for accidents. The second canvas, on which the patient sits, is an inch or two below the level of the water, with which the tub is half filled, and the third is placed across the lower end of the tub and raised an inch or two above the water-level. On this the patient rests her feet and legs, consequently she sits in only two or three inches of water, or just enough to cover the perineum. Care must be taken in clamping on the canvases to adjust them to individual needs, as half an inch too low or too high will make the difference between a day of comfort or one of actual distress. After the patient is in the tub, a framework of board is placed across the top of it, making a convenient table upon which to rest her arms while reading or sewing, such patients as a rule being well enough to keep themselves thus occupied. This is covered by a blanket, which absorbs and prevents the dripping back of the moisture, which in turn is covered by a large mackintosh to prevent the escape of heat. The whole is then covered by a sheet or spread, and with its corners neatly fastened down presents an appearance as attractive as it is comfortable.

For the continuous bladder irrigation this arrangement of the tub is invariably used. The irrigating-jar is made, preferably, of white porcelain with a close-fitting cover and has a capacity of twelve quarts. The stand which supports it is about five feet high. There is a small opening at the base to which a long rubber tube is attached; this in

PLATE III.



THE CONTINUOUS BATH

turn is joined, by means of a glass tube or nozzle, to the catheter. Plain, warm, sterile water or boracic-acid solution is used, and the flow is regulated by the height of the stand or by compression on the rubber tube with a clamp. While in use the irrigator must never be allowed to empty itself completely. It requires refilling every two or three hours. An ordinary glass jar or bottle may be substituted for the irrigator, in which case the flow must be started by means of a siphon.

Like the surgical tub, the temperature of the water must be kept at 98° F. to 100° F., and the same precautions taken during the changing process. When a constant irrigation of the bladder is in use, it is necessary to change the water oftener to prevent overflowing.

Although the continuous bath is now a well-established and much valued form of treatment in the several departments of the hospital, it has as yet no special portion belonging to it exclusively, and is, as a rule, relegated to the corners and out-of-the-way places. Consequently the changing process is the nurse's problem. She must note the temperature of the water frequently and change promptly when the thermometer indicates a fall. This varies with the season of the year from one to three hours. The method is very simple. It consists in drawing off from the spigot at the end of the tub several gallons of the tepid water into a large pail or tub. This is replaced by an equal amount of hot water poured in slowly and carefully from the top. The nurse must be constantly watchful that this is done at such a safe distance from any part of the patient's body as to avoid any risk of injury by burning.

The ideal tub, with its special heating and plumbing apparatus and its continuous flow of pure, clean water, will come some day, but at the present time it will be seen that the care of continuous-bath patients is somewhat laborious, requiring constant watchfulness and the exercise of much good judgment. It must not be supposed, because they are so much in the water, that for such patients the bath for cleanliness can be omitted. The necessity for keeping the skin in good condition is even greater than under ordinary circumstances. It is also advisable to apply an ointment to the surfaces exposed to moisture. Lanoline is excellent for this purpose.

The amount of comfort these patients derive from the continuous-bath treatment is indescribable. No matter how glad they may be when the time comes to get out and take a little exercise, as many of them are able to do, after a night spent in bed with even the most careful attention to the changing of dressings and linen, they are always glad to get back into the water again the next morning.